



## **STATE OF COLORADO**

### **CLASS SERIES DESCRIPTION**

**July 1, 1999**

### **INFORMATION TECHNOLOGY SERVICES**

H2I1IX TO H2I9XX

#### **DESCRIPTION OF OCCUPATIONAL WORK**

This class series uses nine levels in the Professional Services Occupational Group and describes technical and professional assignments in information technology fields. Technical work is skilled work in the practical application of specialized techniques, procedures, practices, or methods in order to accomplish tasks. The specialized work is a direct extension of a professional field which requires an understanding of that field in order to carry out the practical nature of the work. Because of the connection with a professional field, the nature of the work requires that it revert to a professional if not performed by a technician.

Professional work is analytical and evaluative in nature. Decisions require the creative and conceptual application of theory and principles of a professional occupational field. A professional field is one in which knowledge is gained by completion of an advanced course of study resulting in a college degree or equivalent specialized experience.

The professional or technical nature of the work and the factors determine the level within this series.

**INDEX:** Information Technology Technician I and II begin on page 2, Information Technology Professional I begins on page 3, Information Technology Professional II begins on page 5, Information Technology Professional III begins on page 6, Information Technology Professional IV begins on page 8, Information Technology Professional V begins on page 10, Information Technology Professional VI begins on page 11, and Information Technology Professional VII begins on page 13.

### **INFORMATION TECHNOLOGY TECHNICIAN I**

H2I1IX

#### **CONCEPT OF CLASS**

This class describes the entry level technician. Positions perform tasks that are structured and designed to provide training and experience. Tasks are performed under direct supervision and detailed instruction and guidance is received. Employees in this class learn to apply established techniques,

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procedures, practices, and methods directly related to the assignment. Positions do not remain at this level indefinitely.

**INFORMATION TECHNOLOGY TECHNICIAN II**

H2I2TX

**CONCEPT OF CLASS**

This class describes the fully-operational technician or entry level professional. Technicians operate independently in performing the full range of technical duties and problem-solving. Although positions carry out defined work procedures and processes, judgment is required on an ongoing basis to select the most appropriate technical guidelines and adapt them to accomplish tasks. Positions continually determine practical solutions to problems by applying specified processes, techniques, and methods.

Entry level professional positions perform tasks that are structured and designed to provide training and experience. Tasks are performed under direct supervision and detailed instruction and guidance is received. Entry professionals learn to apply theories and principles of the professional information technology field.

Technical assignments will not move beyond this level. Entry professional positions do not remain at this level indefinitely.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the defined level, as described here. Within limits prescribed by the operation, choices involve selecting alternatives that affect the manner and speed with which tasks are carried out. These choices do not affect the standards or results of the operation itself because there is typically only one correct way to carry out the operation. Alternatives include independent choice of such things as priority and personal preference for organizing and processing the work, proper tools or equipment, speed, and appropriate steps in the operation to apply. By nature, the data needed to make decisions can be numerous but are clear and understandable so logic is needed to apply the prescribed alternative. Positions can be taught what to do to carry out assignments and any deviation in the manner in which the work is performed does not change the end result of the operation.

**Complexity** -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study technical information to determine what it means and how it fits together in order to get practical solutions to problems and tasks. Guidelines in the form of specified processes, techniques, and methods exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

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**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

**INFORMATION TECHNOLOGY PROFESSIONAL I**

H2I3XX

**CONCEPT OF CLASS**

This class describes the intermediate level. Positions operate independently in performing assignments that are limited to phases of a fully-operational professional assignment or which may be designed to provide continued training and experience. Work requires determining solutions to practical problems using specified professional standards and established criteria. Judgment is used to select and apply existing guidelines to solve problems and accomplish the assignment. This class differs from the Information Technology Technician II on Decision Making and possibly Line/Staff Authority for technician positions. Some assignments will not move beyond this level.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices.

**Complexity** -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study technical information to determine what it means and how it fits together in order to get

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practical solutions to problems and tasks. Guidelines in the form of specified processes, techniques, and methods exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

Note: Technical positions who are work leaders over other technical positions may be allocated to this class if they also have the required level of Decision Making.

**INFORMATION TECHNOLOGY PROFESSIONAL II**

H2I4XX

**CONCEPT OF CLASS**

This class describes the fully-operational professional. Positions operate independently in performing the full range of professional information technology tasks. Work requires the use of discretion and creativity within limits of theory and principles of the profession; management's program objectives; law and regulations; and, general systems and guidelines. Judgment is used in the adaptation and skilled application of guidelines to solve the full range of problems related to the assignment. An employee in this class must anticipate and analyze the impact and consequences of decisions made. Positions may serve as a resource to others or a specialist in the professional field. This class differs from the Information Technology Professional I on Decision Making, Complexity and possibly Line/Staff Authority. Some assignments will not move beyond this level.

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**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the process level, as described here. Within limits set by professional standards, the agency's available technology and resources, and program objectives and regulations established by a higher management level, choices involve determining the process, including designing the set of operations. The general pattern, program, or system exists but must be individualized. This individualization requires analysis of data that is complicated. Analysis is breaking the problem or case into parts, examining these parts, and reaching conclusions that result in work processes. This examination requires the application of known and established theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. New processes or objectives require approval of higher management or the agency with authority and accountability for the program or system.

**Complexity** -- The nature of, and need for, analysis and judgment is formulative, as described here. Positions evaluate the relevance and importance of information technology theories, concepts, and principles in order to tailor them to develop a different approach or plan to fit specific circumstances. While general policy, precedent, or non-specific practices exist, they are inadequate and are therefore relevant only through approximation or analogy. In conjunction with theories, concepts, and principles, positions use judgment and resourcefulness in tailoring the existing guidelines so they can be applied to particular circumstances and to deal with emergencies.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

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**INFORMATION TECHNOLOGY PROFESSIONAL III**

H2I5XX

**CONCEPT OF CLASS**

This class describes the work or project leader or staff authority. Work leaders exercise some control over the continual work product of others. Project leaders do so on an ongoing project basis where the projects are critical to the agency's mission and fundamental business operations. Staff authorities possess a unique level of knowledge and expertise in a professional field that is needed by the agency to support its overall mission. Agency management routinely relies on the essential consultation of the authority before deciding broad, critical program and policy direction. The consultation provided is accepted as fact and not refuted on its technical merit, even if management does not act on it for political or budgetary reasons. Staff authorities are authorized to take action and issue expert opinions that provide direction for further action by others. Authorities design strategy, systems, processes, guidelines, rules, and standards that are mission critical and directly impact the agency's ongoing operation and broad program or policy. Staff authority is delegated by agency management, beyond the immediate supervisor. This class differs from the Information Technology Professional II on Line/Staff Authority and possibly Purpose of Contact.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the process level, as described here. Within limits set by professional standards, the agency's available technology and resources, and program objectives and regulations established by a higher management level, choices involve determining the process, including designing the set of operations. The general pattern, program, or system exists but must be individualized. This individualization requires analysis of data that is complicated. Analysis is breaking the problem or case into parts, examining these parts, and reaching conclusions that result in work processes. This examination requires the application of known and established theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. New processes or objectives require approval of higher management or the agency with authority and accountability for the program or system.

**Complexity** -- The nature of, and need for, analysis and judgment is formulative, as described here. Positions evaluate the relevance and importance of information technology theories, concepts, and principles in order to tailor them to develop a different approach or plan to fit specific circumstances. While general policy, precedent, or non-specific practices exist, they are inadequate and are therefore relevant only through approximation or analogy. In conjunction with theories, concepts, and principles, positions use judgment and resourcefulness in tailoring the existing guidelines so they can be applied to particular circumstances and to deal with emergencies.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

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Exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories or marketing a product or service. This goes beyond what has been learned in training or repeating information that is available in another format.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a work/project leader or staff authority. The work/project leader is partially accountable for the work product of two or more full-time equivalent positions, including timeliness, correctness, and soundness. At least one of the subordinate positions must be a professional level in the same series or at a comparable conceptual level. Typical elements of direct control over other positions by a work/project leader include assigning tasks, monitoring progress and work flow, checking the product, scheduling work, and establishing work standards. The work/project leader provides input into supervisory decisions made at higher levels, including signing leave requests and approving work hours. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

**OR**

The staff authority is an expert professional position. At the staff authority level, management has delegated the responsibility to a position to function as a recognized expert in the application, use, and/or adaptation of guidelines related to an information technology field of work. It is an essential component of the work assignment. Expert individual contributor positions possess and apply a comprehensive knowledge of an information technology field of work. The delegated responsibility to function as a staff authority is in lieu of supervisory or work/project leader responsibilities and a position requires neither to be placed at this level. Additionally, managers, peers, and users recognize and rely on such a position to provide guidance, direction, and instruction regarding the proper application and/or adaptation of standards, principles, concepts, techniques, protocols, and/or other guidelines related to the staff authority's area(s) of expertise.

**INFORMATION TECHNOLOGY PROFESSIONAL IV**

**H2I6XX**

**CONCEPT OF CLASS**

This class describes the supervisor or senior authority. Supervisors exercise direct, formal control over others. Senior authorities possess a unique level of knowledge and expertise in a professional field that is needed by the agency to support its overall mission. Agency management routinely relies on the

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essential consultation of the authority before deciding broad, critical program and policy direction. The consultation provided is accepted as fact and not refuted on its technical merit, even if management does not act on it for political or budgetary reasons. Senior authorities are authorized to take action and issue expert opinions that provide direction for further action by others. Authorities design strategy, systems, processes, guidelines, rules, and standards that are mission critical and directly impact the agency's ongoing operation and broad program or policy. Senior authority is delegated by agency management, beyond the immediate supervisor. This class differs from the Information Technology Professional III on Line/Staff Authority and possibly Purpose of Contact.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the process level, as described here. Within limits set by professional standards, the agency's available technology and resources, and program objectives and regulations established by a higher management level, choices involve determining the process, including designing the set of operations. The general pattern, program, or system exists but must be individualized. This individualization requires analysis of data that is complicated. Analysis is breaking the problem or case into parts, examining these parts, and reaching conclusions that result in work processes. This examination requires the application of known and established theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. New processes or objectives require approval of higher management or the agency with authority and accountability for the program or system.

**Complexity** -- The nature of, and need for, analysis and judgment is formulative, as described here. Positions evaluate the relevance and importance of information technology theories, concepts, and principles in order to tailor them to develop a different approach or plan to fit specific circumstances. While general policy, precedent, or non-specific practices exist, they are inadequate and are therefore relevant only through approximation or analogy. In conjunction with theories, concepts, and principles, positions use judgment and resourcefulness in tailoring the existing guidelines so they can be applied to particular circumstances and to deal with emergencies.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories or marketing a product or service. This goes beyond what has been learned in training or repeating information that is available in another format.



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**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a unit supervisor or senior authority. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be a professional level in the same series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

**OR**

The senior authority is a top-level individual contributor position who has an exceptional level of expertise in an information technology field. To be at the senior level, a position has been delegated by management to function as a top-level individual contributor which is an essential component of the work assignment and is recognized as such by both management and peers. Such a position directly influences management decisions by acting as an internal consultant and providing direction to management on any aspect or issue pertaining to a position's field of information technology expertise. Managers and others rely on a senior level position when making decisions regarding the development and formulation of policy and other guidelines; the direction of overall project objectives and activities; and/or the consideration and implementation of new state-of-the-art technologies in the senior authority's area(s) of expertise. Additionally, the delegated responsibility to function as a senior authority is in lieu of supervisory responsibilities and a position does not require supervision to be placed at this level.

For example, a senior level authority is involved in activities such as: functioning as a project manager by overseeing and directing all phases related to multiple simultaneous and/or the most complex/diverse projects; defining the scope and objectives of project(s); formulating and determining work plans, project priorities and time schedules; and, coordinating project activities to achieve objectives in a timely manner. Other senior authority level work includes: acting as a management resource/internal consultant by advising and guiding management on the effective design and/or operation of existing systems and new technologies under consideration or proposed for implementation; providing direction to management, in the position's area(s) of expertise, by formulating and recommending policies and strategies that support overall organizational objectives; developing and recommending criteria for the use of new technology and methodologies to be used to oversee and complete projects; and, implementing new state-of-the-art technologies and methodologies to complete projects.

**INFORMATION TECHNOLOGY PROFESSIONAL V**

**H217XX**

**CONCEPT OF CLASS**

This class describes the first-level program supervisor. Positions manage the daily operation of all information technology activities or a specific functional area or work unit. Positions determine the annual business plans that integrate with the agency's mission and goals, determine implementation policies and guidelines, develop budgets, establish staffing and directly control the work of others.

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Work involves directing the implementation of policies, rules, and regulations. This class differs from the Information Technology Professional IV on Decision Making and Complexity.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the interpretive level, as described here. Within limits of the strategic master plan and allocated human and fiscal resources, choices involve determining tactical plans to achieve the objectives established by the highest management level. This involves establishing what processes will be done, developing the budget, and developing the staffing patterns and work units in order to deploy staff. This level includes inventing and changing systems and guidelines that will be applied by others statewide. By nature, this is the first level where positions are not bound by processes and operations in their own programs as a framework for decision making and there are novel or unique situations which cause uncertainties that must be addressed at this level. Through deliberate analysis and experience with these unique situations, the manager or expert determines the systems, guidelines, and programs for the future.

**Complexity** -- The nature of, and need for, analysis and judgment is strategic, as described here. Positions develop guidelines to implement a program that maintains the agency's mission. Guidelines do not exist for most situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish guidelines that direct how a departmental/agency program will be implemented.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Detecting, discovering, exposing information, problems, violations or failures by interviewing or investigating where the issues or results of the contact are not known ahead of time.

Advising, counseling, or guiding the direction taken to resolve complaints or problems and influence or correct actions or behaviors.

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories or marketing a product or service. This goes beyond what has been learned in training or repeating information that is available in another format.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a unit supervisor. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be a professional level in the same series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend

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hire, promotion, or transfer. Some positions may function as second-level supervisors depending on the size of the unit.

**INFORMATION TECHNOLOGY PROFESSIONAL VI** **H2I8XX**

**CONCEPT OF CLASS**

This class describes the second-level program supervisor. Positions manage the daily operations of all information technology activities or specific functional areas or multiple work units. Positions determine the annual business plans that integrate with the agency's mission and goals, determine implementation policies and guidelines, develop budgets, establish staffing and control the work of others through formal supervision of subordinate unit supervisors. Work involves directing the implementation of policies, rules, and regulations. This class differs from the Information Technology Professional V on Decision Making, Line/Staff Authority and possibly Purpose of Contact.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the programmatic level, as described here. Within limits set by organizational policy, general directives, overall goals and objectives, and allocated resources, choices involve formulating or adjusting programs, specifying program objectives, and allocating human and fiscal resources among constituent programs. This involves independently, and under conditions of uncertainty, determining what has been done, what can be done, proposals for long-term policy, and estimates of what new resources are required. The long-term strategic plans, purposes, and staffing determined by this level require integration with other programs in the overall plan. Program, as used here, is defined by the mission of an agency or division as opposed to a segment or piece of a program, such as planning, program evaluation, etc. This level does not describe positions that are applying a program controlled by another agency which has the authority and accountability for it.

**Complexity** -- The nature of, and need for, analysis and judgment is strategic, as described here. Positions develop guidelines to implement a program that maintains the agency's mission. Guidelines do not exist for most situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish guidelines that direct how a departmental/agency program will be implemented.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories or marketing a product or service. This goes beyond what has been learned in training or repeating information that is available in another format.

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Negotiating as an official representative of one party in order to obtain support or cooperation where there is no formal rule or law to fall back on in requiring such action or change from the other party. Such negotiation has fiscal or programmatic impact on an agency. In reaching settlements or compromises, the position does not have a rule or regulation to enforce but is accountable for the function.

Defending, arguing, or justifying an agency's position in formal hearings or court where the position is an official representative of one party.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a second-level supervisor. The second-level supervisor must be accountable for multiple units through the direct supervision of at least two subordinate Unit Supervisors; and, have signature authority for actions and decisions that directly impact pay, status, and tenure. Elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, second-level signature on performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

**INFORMATION TECHNOLOGY PROFESSIONAL VII**

H2I9XX

**CONCEPT OF CLASS**

This class describes the third-level program supervisor. Positions manage the daily operations of all information technology activities or specific functional areas or multiple work units. Positions determine the annual business plans that integrate with the agency's mission and goals, determine implementation policies and guidelines, develop budgets, establish staffing and control the work of others through formal supervision of subordinate second-level supervisors. Work involves directing the implementation of policies, rules, and regulations. This class differs from the Information Technology Professional VI on Line/Staff Authority.

**FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the programmatic level, as described here. Within limits set by organizational policy, general directives, overall goals and objectives, and allocated resources, choices involve formulating or adjusting programs, specifying program objectives, and allocating human and fiscal resources among constituent programs. This involves independently, and under conditions of uncertainty, determining what has been done, what can be done, proposals for long-term policy, and estimates of what new resources are required. The long-term strategic plans, purposes, and staffing determined by this level require integration with other programs in the overall plan. Program, as used here, is defined by the mission of an agency or division as opposed to a segment or piece of a program, such as planning, program evaluation, etc. This level does not describe positions that are applying a program controlled by another agency which has the authority and accountability for it.

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**Complexity** -- The nature of, and need for, analysis and judgment is strategic, as described here. Positions develop guidelines to implement a program that maintains the agency's mission. Guidelines do not exist for most situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish guidelines that direct how a departmental/agency program will be implemented.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of any of the following:

Clarifying underlying rationale, intent, and motive by educating others on unfamiliar concepts and theories or marketing a product or service. This goes beyond what has been learned in training or repeating information that is available in another format.

Negotiating as an official representative of one party in order to obtain support or cooperation where there is no formal rule or law to fall back on in requiring such action or change from the other party. Such negotiation has fiscal or programmatic impact on an agency. In reaching settlements or compromises, the position does not have a rule or regulation to enforce but is accountable for the function.

Defending, arguing, or justifying an agency's position in formal hearings or court where the position is an official representative of one party.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a third-level supervisor. The third-level supervisor must be accountable for multiple units through the direct supervision of at least two subordinate second-level supervisors; and, have signature authority for actions and decisions that directly impacts pay, status, and tenure. Elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, second-level signature on performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

**DEFINITIONS**

Database Administrator/Analyst: Concerned with data management by maintaining, enhancing, developing, and implementing database systems. Work involves data planning and development and determining operational policies, standards, and procedures around data management, security and access, maintenance, and utilization.

Network Services: Concerned with local and wide area networks. Technicians install equipment and software, operate and maintain the network, train users, and troubleshoot technical problems. Professionals develop, design, and enhance the overall network and develop network policies and standards, including security procedures.

Operating Systems: Concerned with computer operating systems software on a multi-user computer. Maintain, enhance, develop, and implement software programs that control the execution of computer application programs and how the computer processes program instructions.

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Programmer/Analyst: Concerned with the analysis and development of computer systems, which may include programming, to maintain, enhance, develop, and implement new computer systems and programs. Systems analysis is working with users to analyze business systems; develop functional, computer system, and program specifications; and design new or maintain and enhance existing computer systems. Programming involves design, coding, documenting, and maintaining programs.

Scientific Programmer/Analyst: Concerned with programming/analysis in scientific fields such as engineering, statistics, physics, mathematics, atmospheric science, and other related fields.

Miscellaneous Information Technology Services: Any specialization in information technology not specifically identified.

**ENTRANCE REQUIREMENTS**

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

**CLASS SERIES HISTORY**

Effective 7/1/99 (KKF). PS consolidation study consolidated Operating System Programmer/Analyst I - IV. Published draft 2/17/98 and proposed 3/20/98.

Effective 9/1/98 (CVC). PS consolidation study consolidated Database Analyst/Administrator (H2C), Data Processing Manager (H2D), Operating Systems Manager (H2F5), Network Services (H2E), Programmer/Analyst (H2G), and Scientific Programmer/Analyst (H2H). Published draft 2/17/98 and proposed 3/20/98.

Revised 8/1/94 (CVC). Revised Network Services to include the Network Technician (H2E2TX).

Revised 5/1/94 (CVC). Adjustment to Operating Systems Programmer/Analyst (H2F) and Programmer/Analyst (H2G) class descriptions as result of system appeal decision.

Effective 9/1/93 (CVC). Job Evaluation System Redesign Project. Created Database Analyst/Administrator (H2C). Revised Data Processing Manager (H2D), Network Services (H2E), Operating Systems Programmer/Analyst (H2F), Programmer/Analyst (H2G). Published as proposed 6/1/93.

Revised 1/1/92. Change in occupational group for Data Processing Manager I-III (A2795 - A2797), Software Programming Manager (A2791), Systems Analysis Manager (A2792).

**CLASS SERIES DESCRIPTION (Cont'd)**  
**INFORMATION TECHNOLOGY SERVICES**  
**July 1, 1999**

Revised 01/01/81. Change in promotion statement for Senior and Principle Systems Analyst (A2782 - A2783).

Revised 7/1/79. Changed entrance requirements for Data Processing Manager I - III (A2795 - A2797). Changed minimum qualifications and class concepts for Software Programmer A - B (A2760 - A2761); minimum qualifications for Senior and Principle Software Programmers (A2762 - A2763), distinguishing features and minimum qualifications for Software Programming Manager (A2791). Addition of options, change nature of work, some examples of work, knowledge, skills and abilities, minimum qualifications for Systems Analyst A, B, Senior and Principle Systems Analyst (A2780 - A2783), distinguishing features and minimum qualifications for Systems Analysis Manager (A2792). Changed distinguishing features and minimum qualifications for Scientific Programmer A, B and Senior (A2770 - A2772).

Created 1/1/75. Data Processing Manager I-III (A2795 - A2797); Software Programmer A, B, Senior, Principle, and Manager (A2760 - A2763 and A2791); Systems Analyst A, B, Senior, Principle and System Analysis Manager (A2780 - A2783 and A2792); and Scientific Programmer A, B and Senior (A2770 - A2772).

**SUMMARY OF FACTOR RATINGS**

Class Level	Decision Making	Complexity	Purpose of Contact	Line/Staff Authority
IT Technician I	na	na	na	na
IT Technician II	Defined	Patterned	Exchange, Detect or Advise	Indiv. Contributor
IT Professional I	Operational	Patterned	Exchange, Detect or Advise	Indiv. Contributor
IT Professional II	Process	Formulative	Exchange, Detect or Advise	Indiv. Contributor
IT Professional III	Process	Formulative	Exchange, Detect, Advise, or Clarify	Work Leader or Staff Authority
IT Professional IV	Process	Formulative	Detect, Advise, or Clarify	Unit Supervisor or Senior Authority
IT Professional V	Interpretive	Strategic	Detect, Advise, or Clarify	Unit Supervisor
IT Professional VI	Programmatic	Strategic	Clarify, Negotiate, or Defend	Manager
IT Professional VII	Programmatic	Strategic	Clarify, Negotiate, or Defend	Senior Manager